

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method comprising:

receiving information for transmission to a receiver; and

generating a plurality of sub-carriers to redundantly transmit the information [[to a user]] over a multi-carrier wireless communication channel, wherein each of the sub-carriers is modified by a set of complex weights to ensure that each of the sub-carriers of the wireless communication channel propagates along a different physical path to the receiver.

2. (Currently Amended) A method according to claim 1, wherein each element of the set of complex weights scales one or more of a sub-carriers amplitude [[and/or]] and phase at an associated transmission antenna.

3. (Currently Amended) A method according to claim 1, [[wherein]] further comprising developing a set of complex weights including [[comprises]]:

choosing substantially different weights for each sub-carrier sharing information; and

iteratively repeating until all sub-carriers have been modified.

4. (Original) A method according to claim 3, wherein the substantially different weights are chosen to be orthogonal to the others.

5. (Original) A method according to claim 3, wherein developing a set of complex weights comprises:

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selecting weight vector(s) to be applied to each of the sub-carriers from a pre-determined set of weight vectors.

6. (Original) A method according to claim 1, further comprising:

transmitting the modified sub-carriers through one or more antenna(e) to the receiver.

7. (Currently Amended) A transceiver comprising:

a diversity agent, operable to selectively develop and apply a set of complex weight values to each of a plurality of signals, each corresponding to a sub-carrier of a multi-carrier communication channel, to introduce spatial diversity between such sub-carriers; and

a transmit module, coupled with the diversity agent, operable to receive the modified sub-carriers and transmit the signals to generate [[a]] the multi-carrier communication channel with intra-channel spatial diversity.

8. (Currently Amended) A transceiver according to claim 7, wherein the plurality of signals [[received from at the diversity agent]] are baseband signals.

9. (Original) A transceiver according to claim 7, wherein the multi-carrier communication channel is comprised of a plurality of sub-carrier signals, each having a disparate set of complex weights introduced at a baseband of the sub-carriers to effect the spatial diversity between the sub-carriers.

10. (Currently Amended) A transceiver according to claim 7, wherein each of the set of complex [[weights]] weight values are comprised of a plurality of weight values each associated with one of a plurality of antennae comprising an antenna array through which the sub-carriers are transmitted.

11. (Original) A transceiver according to claim 10, wherein the diversity agent develops the set of complex weight values for a given baseband signal to be maximally orthogonal complex weight values applied to another baseband signal.
12. (Currently Amended) A transceiver according to claim 10, wherein the diversity agent is operable to develop a [[develops the]] set of complex weight vectors for a sub-carrier that are substantially different from weight vectors modifying other sub-carriers that include at least a subset of information carried by the sub-carrier.
13. (Currently Amended) A transceiver according to claim 7, wherein the transmit module is operable to upconvert and amplify [[upconverts and amplifies]] each of the modified baseband signals to generate a plurality of spatially diverse sub-carriers.
14. (Currently Amended) A transceiver according to claim 13, wherein the transmit module is operable to transmit [[transmits]] each of the sub-carriers to one or more receiver(s).
15. (Currently Amended) A transceiver according to claim 7, further comprising:
a memory [[having stored therein]] operable to store content; and
control logic, coupled to the memory, operable to access and process at least a subset of the content to implement the diversity agent.
16. (New) The method of claim 1, wherein the multi-carrier wireless communication channel uses Orthogonal Frequency Division Multiplexing (OFDM).
17. (New) The transceiver of claim 7, wherein the multi-carrier wireless communication channel uses Orthogonal Frequency Division Multiplexing (OFDM).

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18. (New) The transceiver of claim 7, wherein the transceiver is selected from a basestation and a wireless telephony subscriber unit.
19. (New) The transceiver of claim 7, wherein the diversity agent develops the set of complex weights to have inter-channel spatial diversity with respect to at least one communication channel of at least one other transceiver.
20. (New) A subscriber unit comprising:
a diversity agent, operable to selectively develop and apply a set of complex weight values to each of a plurality of signals, each corresponding to a sub-carrier of a multi-carrier communication channel, to introduce spatial diversity between such sub-carriers; and
a transmit module, coupled with the diversity agent, operable to receive the modified sub-carriers and transmit the signals to generate the multi-carrier communication channel with intra-channel spatial diversity.
21. (New) A transceiver according to claim 7, wherein each of the set of complex weight values are comprised of a plurality of weight values each associated with one of a plurality of antennae comprising an antenna array through which the sub-carriers are transmitted.

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